

REMARKS

Applicants have amended the specification to include SEQ ID NO assignments for the human and murine IgE and IgG sequences listed in Figure 7. In addition, a new sequence listing, which includes the newly assigned SEQ ID NO's and their related amino acid sequences, has been submitted in both paper copy and computer readable form (CRF). Applicants assert that the CRF and the paper copy enclosed herewith are identical and therefore the present application complies with the requirements of 37 CFR 1.821-1.825. Applicants note the amino acid sequences represented by the newly assigned SEQ ID NO's were already present in the application and that Applicants have merely assigned these amino acid sequences SEQ ID numbers to comply with the requirements of 37 C.F.R. §§1.821(a)(1) and (a)(2). Accordingly, Applicants submit no new matter has been added to the specification.

I. Rejections under 35 U.S.C. § 103 (a)

The Examiner has rejected claims 21-31 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Padlan et al. Specifically, the Examiner states Padlan et al. shows a computer system for producing a three-dimensional model of an IgE molecule by use of X-ray crystallographic data. Furthermore, the Examiner states the computer system of Padlan et al. differs from the instant invention only in the content of the databases (i.e., x-ray crystallographic data). The Examiner contends the difference between these two systems (i.e., the content of the databases) constitutes nonfunctional, descriptive material, because the content of the database of the instant invention does not alter how the computer system functions; therefore, no patentable weight is given to the content of the databases.

To begin with, Applicants believe the Examiner was in error in failing to accord any patentable weight to the contents of the database of the instant claims. As stated under 35 U.S.C. § 103, "A patent may not be obtained ...if the differences...are such that...the subject matter *as a whole* (emphasis added) would have been obvious at the time the invention was made..". The key point here is that the invention must be examined as a whole. Applicants appreciate that the Examiner's decision to not accord the contents of the database patentable weight was based on his contention that such data constitutes non-functional, descriptive material. Applicants believe the key question here is whether the coordinate data can truly be considered non-functional. Applicants do not agree with such a classification. The MPEP at 2106 IV B(1)(b) states that

descriptive material is nonfunctional if it fails to create any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer, and therefore does not impart functionality either to the data as so structured or to the computer. The Examiner has stated the contents of the database are non-functional because the x-ray crystallographic data does not alter how the computer system functions, i.e., the database of the claimed computer system does not reconfigure the computer system to perform a different function than the computer system of Padlan et. al. Applicants disagree with this conclusion and contend the data representing the structural coordinates do create a functional interrelationship with the claimed computer system and that they do impart functionality to the computer system. The purpose of the claimed computer system is to produce a three-dimensional image of a human IgE molecule. Without specific coordinates, such a task would be impossible in that the computer would not have any guidance as to how to draw the image. Therefore the function of the database contents is to provide guidance to the computer as to how to draw the IgE image. The computer processes and the database are interrelated in that by themselves, neither the coordinate data of the database nor the computer can produce an image of human IgE. It is only through the interaction of the computer program and the coordinate data that a 3-dimensional image can be produced. Therefore, the contents of the database are essential for the computer processes and to the proper functioning of the claimed system. As stated by the court in *In re Bernhart and Fetter*,

"...if a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these physical changes are invisible to the eye should not tempt us to conclude that the machine has not been changed."

Extending this argument to the instant case, the fact that the effect of the structural coordinate data on the computer processes is invisible to the eye should not lead one to think it has no effect or function. Clearly the coordinate data is instrumental in guiding the computer in its construction of a final image. Without such data, the processes responsible for producing the image would not be able to function and no image would be drawn. As such, Applicants contend

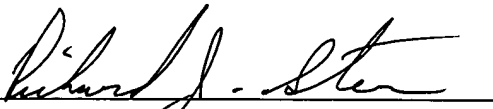
that the data is an integral part of the computer processes and therefore, such data must be included when considering the instant claims.

Finally, once it is accepted that the contents of the database should be considered as an element of the claim, Applicants believe there is then no basis for the obviousness rejection. It is well established that in order to establish a prima facie case of obviousness, all of the claim limitations must be taught or suggested by the prior art. (MPEP 2143.03) In the instant case, the prior art cited by the Examiner (Padlan et. al) does describe a three-dimensional model of human IgE; however, Padlan et. al do not disclose or even suggest the coordinates disclosed in the instant application. Without such teaching, Applicants assert that it would not have been obvious for one of skill in the art to arrive at the structures disclosed by the Applicants in the instant Application.

In view of the foregoing arguments, Applicants request a withdrawal of the rejection under §103(a) and solicit an allowance of the pending claims. The Examiner is invited to contact the undersigned should any issues remain.

Respectfully submitted,

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